



## Proposed Plan for Cleanup of the Electro-Voice Superfund Site

**Buchanan, Michigan**

**June 1999**

### This Update Will Tell You About

- Site background
- The proposed cleanup plan
- How you can learn more about the site

### You Are Invited to a Public Meeting

U.S. EPA will hold a public meeting to explain the proposed cleanup plan for the Electro-Voice Superfund Site. Oral and written comments will be accepted at the meeting.

Date: **July 14, 1999**

Time: **7 p.m.**

Place: **Buchanan City Hall  
302 N. Redbud  
Buchanan, MI**

### Public Comment Period

U.S. EPA will accept written comments on the proposed plan during a 30-day public comment period from **July 9 to August 8, 1999**. A pre-addressed comment form is included in this proposed plan.

### Introduction

This proposed plan describes the alternatives to clean up off-property ground-water contamination, also called the second operable unit, at the Electro-Voice Superfund site in Buchanan, Michigan (see Figure 1). The U.S. Environmental Protection Agency (U.S. EPA) is the lead agency and the Michigan Department of Environmental Quality (MDEQ) is the support agency

for cleanup activities at this site. This proposed plan summarizes background information about the site and describes the cleanup alternatives that U.S. EPA and MDEQ are considering for off-property ground water. This proposed plan:

- Explains the criteria used to evaluate the cleanup alternatives;
- Presents and evaluates U.S. EPA's recommended cleanup alternative, Alternative 2 - Monitored Natural Attenuation; and
- Describes why we are recommending this alternative.

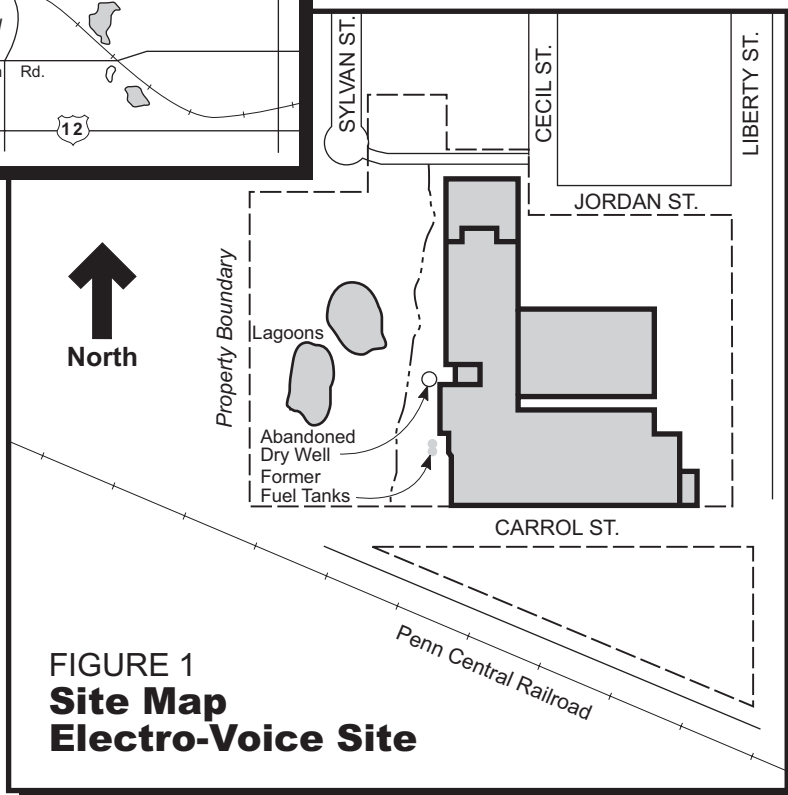
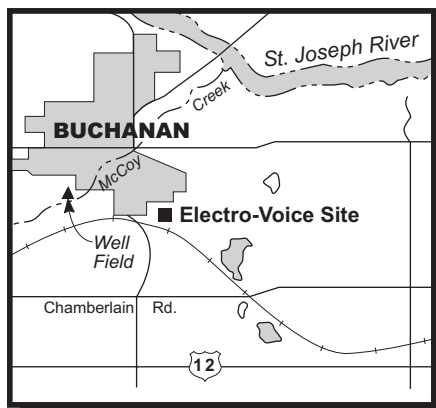


FIGURE 1  
**Site Map  
Electro-Voice Site**

The contaminated soils and the more highly contaminated ground water beneath the Electro-Voice property were addressed through cleanup actions conducted from 1993 to 1997. This proposed plan addresses the remaining ground-water contamination and is based on:

- Information collected during a study called a remedial investigation and feasibility study;
- Quarterly and annual ground-water monitoring data collected from 1993 to 1998; and
- An off-property ground-water investigation conducted in 1998.

The remedial investigation and feasibility study reports, the technical memorandum for the evaluation of off-property ground water and other documents regarding the site are available in a file called the “administrative record” at the Buchanan Public Library, 117 W. Front Street. U.S. EPA encourages you to review the documents in the administrative record for detailed information about the site and about the development and evaluation of the cleanup alternatives.

U.S. EPA is issuing this proposed plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986. This proposed plan outlines the public’s role in helping U.S. EPA and MDEQ make a final decision regarding site cleanup. Public input on the alternatives and the information that supports these alternatives is an important contribution to the remedy selection process.

U.S. EPA will hold a public meeting and comment period and will accept comments from residents, public officials, agency representatives and anyone else interested in the site.

Based on new information or public comment, U.S. EPA may modify the recommended cleanup alternative or select another cleanup alternative presented in this plan or the feasibility study report. We encourage the public to review and comment on all the cleanup plans considered for the off-property ground water. U.S. EPA will not select a final cleanup plan for the off-property ground water until the public comment period has ended and U.S. EPA and MDEQ have reviewed and considered all the comments and information submitted during the comment period.

## **Background**

### ***Electro-Voice***

Electro-Voice (now called EV-International Inc.) manufactures sound equipment and is located at 600 Cecil Street in Buchanan, Michigan. Activities at the plant include die casting, machining, assembly, painting, electroplating and administration. Research and development activities were moved to another location in 1988. The plant includes a building, two parking lots and an open field. A residential area, a few commercial properties and an elementary school surround the plant. McCoy Creek is located one-half mile north of Electro-Voice. One residence is connected to a private well located on the western edge of Buchanan about 1 mile northwest of Electro-Voice. All other Buchanan residents are connected to the city water supply. The city wells are about three-fourths of a mile west of Electro-Voice. The city wells and the private well are not in danger of becoming contaminated from the off-property ground-water contamination.

### ***Areas of Contamination***

The contamination at the site resulted from Electro-Voice’s discharge of electroplating wastes into two clay-lined lagoons from 1952 to 1962,

and from the disposal of paint wastes and solvents into a drywell from 1964 to 1973. The waste disposal activities caused the ground water to become contaminated with chemicals called volatile organic compounds. The ground-water contamination extends about one-half mile north of Electro-Voice to about the intersection of Third Street and Red Bud Trail, about 500 feet north of McCoy Creek (Figure 2). In 1980, Electro-Voice excavated the contents of one of the lagoons and filled both lagoons with fill material. However, the soil beneath and around the excavated lagoon and in the unexcavated lagoon remained contaminated.

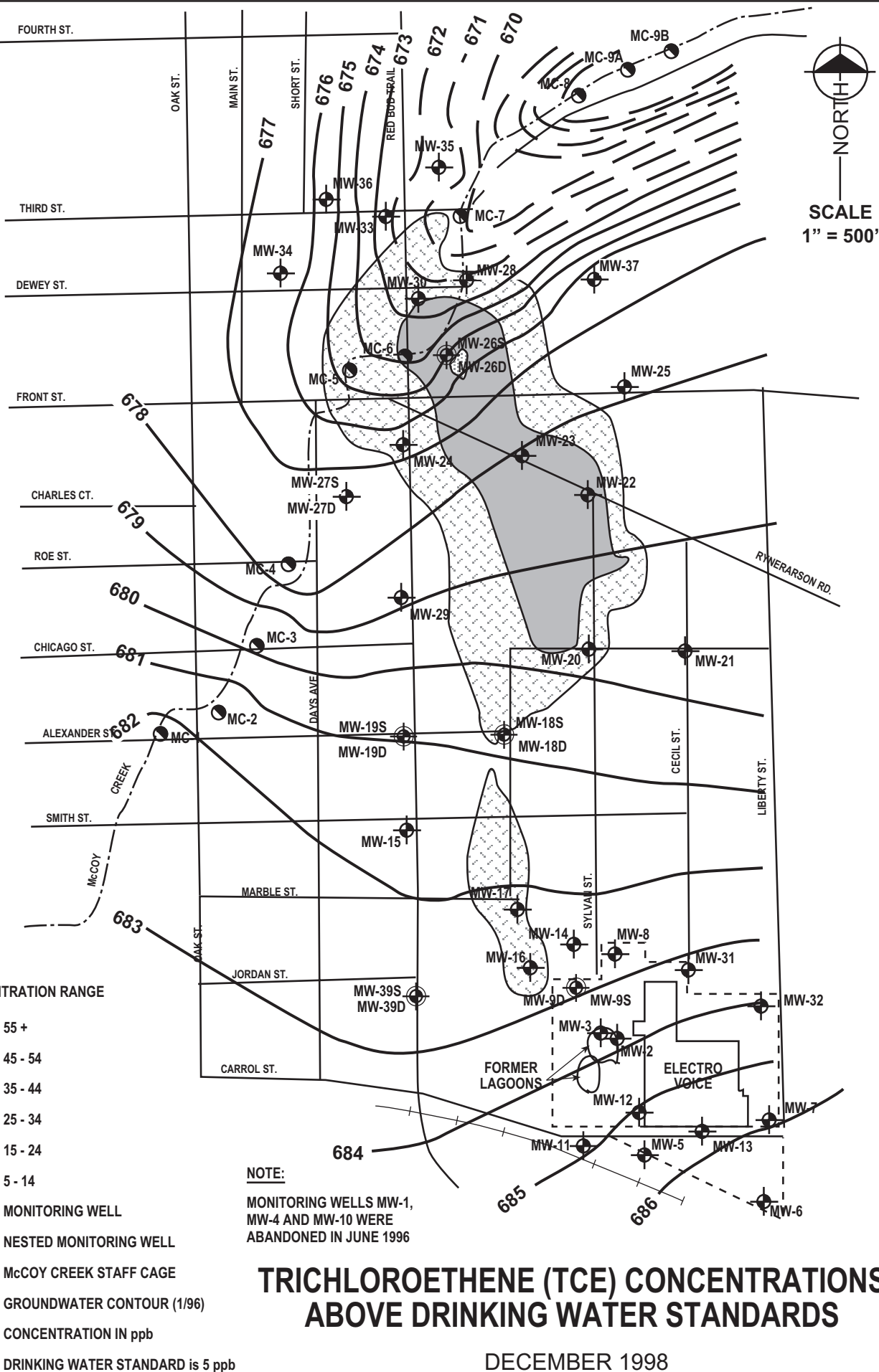
### ***Previous Studies and Cleanup Plans***

In 1987 Electro-Voice entered into an agreement with U.S. EPA to investigate the contamination at the site. Electro-Voice completed the investigation, called a remedial investigation, under U.S. EPA and MDEQ oversight in 1990. In 1991, U.S. EPA conducted a feasibility study to evaluate cleanup options for the site. In 1991, after U.S. EPA completed the feasibility study, U.S. EPA issued a proposed plan that recommended cleaning up the contamination by:

- Constructing a clay cover over the lagoon area;
- Installing a treatment system to clean up the soil in the drywell area; and
- Installing a pump-and-treat system to clean up the contaminated ground water.

Based on the public comments received during the comment period, U.S. EPA modified the final cleanup plan. The final cleanup plan called for cleaning up the lagoons, the drywell area soils and the more contaminated on-property ground water first, then selecting a cleanup plan for off-property ground water.

**Figure 2**



U.S. EPA issued its final cleanup plan for the site in 1992 in a document called a record of decision. In 1993, 1995 and 1996, U.S. EPA updated the record of decision in documents called explanations of significant differences. These updates:

- Revised the list of cleanup standards for drywell area soils and on-property ground water;
- Selected a new cleanup technology called a “subsurface volatilization and ventilation system” for drywell area soils and on-property ground water; and
- Revised the cleanup standards to incorporate changes in Michigan Act 451 Part 201.

### ***Lagoon and Drywell Area Cleanup***

In 1993 Electro-Voice entered into a second agreement with U.S. EPA to conduct the engineering design for the cleanup and to clean up the site. This phase is also being conducted under U.S. EPA and MDEQ oversight. Electro-Voice completed the lagoon cleanup in 1997; this involved constructing a large clay cover over the lagoon area to contain soil contaminants, minimize future ground-water contamination, and prevent people from coming into contact with the contaminated materials in the lagoons. The parties designed the clay cover to meet hazardous waste requirements. It consists of three feet

of clay covered by a two foot layer of sand and four inches of topsoil.

Electro-Voice is cleaning up the contaminated soils in the drywell area and on-property ground water with a treatment system called a subsurface volatilization and ventilation system. This system uses a combination of air injection, soil vapor extraction and in-situ biodegradation technologies. The subsurface volatilization and ventilation system will operate until soil and ground-water contaminants are reduced to cleanup levels. Contaminant concentrations in the on-property ground water have been below cleanup levels since 1996. U.S. EPA is currently evaluating the results of soil sampling in the drywell area to determine if the soil cleanup is complete and if the subsurface volatilization and ventilation system can be shut down.

### **Off-Property Ground Water**

#### ***Ground-water Contaminants***

The off-property ground water remains contaminated with a chemical called trichloroethene (TCE) and its breakdown product, cis-1,2-dichloroethene (DCE). Another breakdown product, vinyl chloride, is in ground-water monitoring well MW-30 located north of McCoy Creek.

The ground water near the Electro-Voice property flows north toward McCoy Creek. Near McCoy Creek, some of the ground water flows into

the creek and some of the ground water continues north and flows under the creek. North of McCoy Creek, the ground-water flow turns slightly east and discharges into McCoy Creek near Third Street.

The off-property ground-water investigation in 1998 and off-property ground-water monitoring since 1993 show that McCoy Creek is capturing the contaminants in the off-property ground water and that the chemical concentrations in the ground water are decreasing (compare Figures 2 and 3).

In 1993, the concentration of TCE in the most contaminated off-property monitoring wells ranged from 39 to 60 ppb. The state and federal drinking water standard for TCE is 5 ppb. By 1998 the maximum concentration of TCE detected in off-property ground water was 26 ppb. Similar reductions were seen for DCE. The concentration of vinyl chloride in monitoring well MW-30 fluctuated between 1 and 9 ppb from 1993 to 1998. The state and federal drinking water standard for vinyl chloride is 2 ppb. Vinyl chloride has not been detected in any other ground-water monitoring wells. Because McCoy Creek is capturing the ground-water contaminants, the ground-water contamination is not spreading beyond the area near the intersection of Third Street and Red Bud Trail.

**Table 1. Off-Property Groundwater Contaminants  
December 1998**

| Chemical       | Concentrations in Off-Property Groundwater (ppb) | Federal and State Drinking Water Standard (ppb) | Concentrations Above Drinking Water Standard? | Number of Monitoring Locations Above Standard (21 Wells Total) | MDEQ Allowable Level for the Discharge of Groundwater into Surface Water (ppb) |
|----------------|--|---|---|--|--|
| TCE            | 0.5 - 26   | 5   | YES   | 8  | 200  |
| Vinyl Chloride | 7  | 2   | YES   | 1  | 15   |
| DCE            | 1 - 12   | 70  | NO  | None   | -  |



## ***Metals in the Ground Water***

During the off-property ground-water investigation, Electro-Voice sampled all ground-water monitoring wells for metals. Electro-Voice did this to determine if metals detected in ground-water samples collected near McCoy Creek in 1997 were related to the site. The levels of metals in the samples were above MDEQ's allowable levels for the discharge of ground water into surface water; however, it was uncertain whether these metals were from the site.

The results of the sampling show that chromium, copper and zinc are present above background levels in the area of ground-water contamination near the site and may be from Electro-Voice. Farther from the site, in the area of ground-water contamination near McCoy Creek, the concentrations of these metals are below background. The other metals detected in the ground water, above background concentrations, occur outside or at the edge of the off-property ground-water contamination, and there is no discernable pattern in the distribution or concentration of these metals that indicates that these metals are from the site. The highest concentrations of metals were detected in ground-water monitoring well MW-35, which is located in an industrial area north of McCoy Creek and is outside Electro-Voice's area of ground-water contamination.

## **Risk Assessment**

### ***No Current Risks***

Drinking water: There are no current risks to drinking water. One residence is connected to a private well located on the western edge of Buchanan about 1 mile northwest of Electro-Voice. All other Buchanan residents are connected to the city water supply. The city wells are about three-fourths of a mile west of Electro-Voice. The city wells and the

private well are not in danger of becoming contaminated from the off-property groundwater contamination. Buchanan also has a local ordinance that prohibits the installation of drinking water wells in contaminated areas. The majority of the properties located within the area of off-property ground-water contamination also have deed restrictions to prevent the installation of drinking water wells on the property.

McCoy Creek: The contaminants in the off-property ground water do not pose a current risk to McCoy Creek. The levels of TCE, DCE and vinyl chloride in the ground water are below MDEQ's allowable levels for the discharge of ground water into surface water (Table 1). Also, in 1991 U.S. EPA collected five water samples from McCoy Creek. Three of the samples contained TCE at a concentration of 0.6 ppb. This concentration is well below the MDEQ human non-drink value for surface water of 44 ppb, and MDEQ's final chronic surface water quality criteria of 200 ppb. The levels of chromium, copper and zinc detected in the area of ground-water contamination near McCoy Creek are also below background levels, and MDEQ's human non-drink values for ground water that flows into surface water.

### ***Potential Future Risks***

Drinking water: Although the contaminated ground water is not currently used as a drinking water supply, the Buchanan area gets its water supply from ground water. The 1991 risk assessment evaluated whether using the ground water at the site for drinking and showering would result in any unacceptable risks. The overall risk from on- and off-property ground water was 4 additional cases of cancer for every 10,000 people who used the ground water for drinking and showering, and a potential for other harmful health effects.

The on-property ground water has been cleaned up; however, the levels of TCE and vinyl chloride in off-property ground water still exceed federal and state drinking water standards. The levels of TCE and vinyl chloride in off-property ground water also exceed the cleanup levels established for these chemicals in on-property ground water in the 1991 record of decision and 1996 explanation of significant differences. Zinc was detected above the MDEQ residential drinking water standard in one monitoring well location (MW-18D). Chromium, copper and DCE do not exceed any drinking water standards.

McCoy Creek: Although the contaminants in the off-property ground water do not pose a current risk to McCoy Creek, chromium, copper and zinc were detected above background levels in the area of ground-water contamination near the site. These chemicals could pose a risk to McCoy Creek if they moved with the ground water and emptied into McCoy Creek at levels that would threaten the creek.

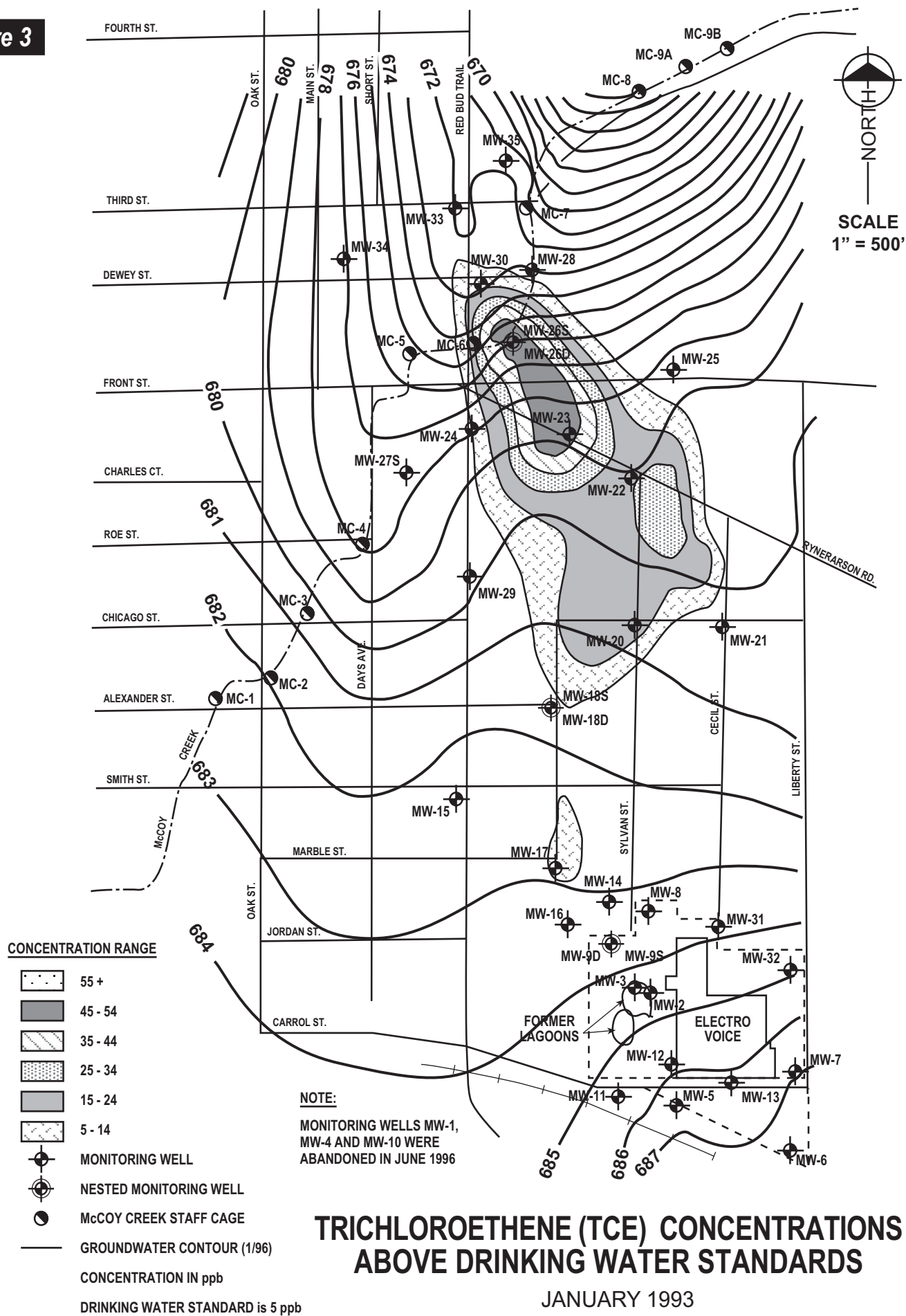
The actual or threatened release of chemicals in the off-property ground water, if not addressed by U.S. EPA's recommended cleanup plan or another active cleanup plan, may pose a current or potential threat to public health, welfare, or the environment.

## **Cleanup Objectives**

U.S. EPA's cleanup objectives for off-property ground water are to:

- Restore off-property ground water to drinking water standards for TCE and vinyl chloride within a reasonable time frame;
- Minimize future migration of ground-water contamination;
- Prevent the use of contaminated ground water as a drinking water supply until the ground water is restored; and

**Figure 3**



- Ensure that the levels of chromium, copper and zinc that are present in the ground water, above background concentrations, will not affect McCoy Creek as the ground water flows away from the site and into the creek.

The federal and state drinking water standard for TCE is 5 ppb. The federal and state drinking water standard for vinyl chloride is 2 ppb.

## Cleanup Alternatives

U.S. EPA is considering three cleanup alternatives, including the no-action alternative, for off-property ground water. They are:

- 1) No-action;
- 2) Monitored natural attenuation; and
- 3) Ground-water pump and treat.

U.S. EPA's recommended cleanup plan for the off-property ground water at the site is Alternative 2 - Monitored Natural Attenuation.

### **Alternative 1 - No-Action**

Estimated Capital Cost: \$0  
Estimated Annual Operation and Maintenance (O&M) Costs: \$0  
Estimated Present Worth: \$0  
Estimated Time to Construct: 0  
Estimated Cleanup Time: 32 - 65 years

The no-action alternative does not involve any cleanup action or cleanup requirements for off-property ground water. The chemical concentrations in the off-property ground water would be expected to naturally decrease, or attenuate, improving ground-water quality over time. The no-action alternative does not include institutional controls, ground-water monitoring or contingency planning. Existing institutional controls may be effective in preventing or minimizing potential future exposure to contaminated ground water; however, nobody would require or monitor these con-

trols. Existing controls at the site include:

- The availability of the city water supply;
- Deed restrictions; and
- The local ordinance.

U.S. EPA is required by law to evaluate a no-action alternative as a basis for comparison.

### **Alternative 2 - Monitored Natural Attenuation**

Estimated Capital Cost: \$3,000  
Estimated Annual Operation and Maintenance (O&M) Costs: \$15,100  
Estimated Present Worth: \$145,000  
Estimated Time to Construct: 1 - 2 weeks  
Estimated Cleanup Time: 32 - 65 years

The monitored natural attenuation alternative relies on natural processes such as recharge, dilution, dispersion and degradation to reduce chemical concentrations in the ground water to drinking water levels. Because McCoy Creek captures the off-property ground-water contaminants, the off-property ground-water contamination is not expected to spread further north of the intersection of Third Street and Red Bud Trail. Ground-water data collected since 1989 also show that the area of ground-water contamination is not getting significantly wider. Also, vinyl chloride, an expected degradation product of TCE with greater toxicity continues to be isolated to MW-30.

Once the chemicals in the off-property ground water enter McCoy Creek, they mix with the creek water and either volatilize or become so diluted that they are harmless. Computer modeling of site conditions indicates that it will take approximately 32 to 65 years for the off-property ground water to naturally attenuate to drinking water

levels. The monitored natural attenuation alternative includes:

- Institutional controls to prevent people from using the off-property ground water until the cleanup levels are achieved;
- A monitoring program to track and evaluate the effectiveness of natural attenuation over time and to make sure that the metals present in the off-property ground-water contamination, above background levels, will not affect McCoy Creek; and
- Contingency plans, to be implemented if the monitoring program identifies the need for modifications or changes in the cleanup plan. Possible contingency actions might include confirmation sampling, collecting ground-water samples more frequently, collecting samples from McCoy Creek, installing new monitoring wells, pursuing additional deed restrictions, notifying the City of Buchanan that the restricted area in the local ordinance needs to be updated, evaluating whether any drinking water supplies are threatened, and whether additional cleanup actions, such as the construction of a ground-water containment system are necessary.

The capital costs for the monitored natural attenuation alternative are for the installation of two to four additional ground-water monitoring wells to supplement the existing monitoring well network, if necessary.

### **Alternative 3 - Ground-water Pump and Treat**

Estimated Capital Cost: \$400,000  
Estimated Annual Operation and Maintenance (O&M) Costs: \$90,000  
Estimated Present Worth: \$1.3 million  
Estimated Time to Construct: 4 months  
Estimated Cleanup Time: 15 - 30 years



The ground-water pump and treat alternative involves installing five collection wells, just south of McCoy Creek, to capture off-property ground water and to prevent it from migrating into the creek. Electro-Voice would treat the off-property ground water using activated carbon, air stripping, chemical oxidation and reduction or photolysis and oxidation. Electro-Voice would then discharge the treated water to either a publicly owned treatment works or directly to McCoy Creek. Any discharge to McCoy Creek would have to meet the substantive requirements of a National Pollutant Discharge Elimination System permit issued under the Clean Water Act.

Estimates indicate that it would take approximately 15 to 30 years for the pump-and-treat system to clean up off-property ground water to drinking water standards. This alternative also includes institutional controls, a monitoring program and contingency planning.

## Evaluation of Cleanup Alternatives

U.S. EPA uses nine criteria to evaluate potential cleanup plans to determine which plan provides the “best balance” of trade-offs with respect to each other and the criteria. The first two criteria, overall protection of human health and the environment and compliance with ARARs, must be met for an alternative to be selected.



















**1 - Overall Protection of Human Health and the Environment** *evaluates whether a cleanup plan provides adequate protection and describes how risks are eliminated, reduced, or controlled through treatment, engineering controls or institutional controls.*

The no-action alternative would not provide adequate protection to human health and the environment. Chemical concentrations in the ground water are expected to naturally decrease over time; however, the no-action alternative does not include institutional controls, monitoring programs or contingency plan-

ning. Because the no-action alternative does not protect human health and the environment, it has been eliminated from further consideration.

The monitored natural attenuation alternative protects human health and the environment by using natural processes such as recharge, dilution, dispersion and degradation to reduce chemical concentrations in the ground water to drinking water levels. Ground-water contaminants will be captured by McCoy Creek where they will become harmless and will not spread into other areas. The monitored natural attenuation alternative also includes institutional controls to prevent people from using the off-property ground water until the cleanup levels are achieved; a monitoring program to track and evaluate the effectiveness of natural attenuation over time and to make sure that the metals present in the off-property ground-water contamination, above background levels, will not affect McCoy Creek; and contingency plans.

**Table 2**

| Evaluation Criteria   | Evaluation Table   |  |   |
|---|--|--|---|
|   | Cleanup Option   |  |   |
|   | 1 - No Action  | 2 - Monitored Natural Attenuation  | 3 - Groundwater Pump and Treat  |
| Overall protection of human health and the environment                      |   |  |  |
| Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) |   |  |  |
| Long-term Effectiveness and Permanence                                      |   |  |  |
| Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment    |   |  |  |
| Short-term Effectiveness  |   |  |  |
| Implementability  |   |  |  |
| Cost  | \$0  | \$145,000  | \$1.3 million   |
| State Acceptance  | State acceptance will be evaluated after the public comment period.  |  |   |
| Community Acceptance  | Community acceptance of the recommended cleanup plan will be evaluated after the public comment period. In 1991 the community expressed strong opposition to U.S. EPA to pump-and-treat the off-property groundwater and urged U.S. EPA to monitor the off-property groundwater instead. |  |   |

 = Fully Meets Criteria

 = Partially Meets Criteria

 = Cannot Be Determined



The ground-water pump and treat alternative provides protection to human health and the environment by containing ground-water contaminants and preventing them from flowing into McCoy Creek, and by restoring off-property ground water to drinking water levels through an active pump and treat system.

**2 - Compliance with ARARs** *evaluates whether a cleanup plan will meet all other federal and state laws and/or provide grounds for invoking a waiver.*

The cleanup plans for monitored natural attenuation and ground-water pump and treat are both expected to comply with ARARs. Key ARARs for off-property ground water include the federal Safe Drinking Water Act and Michigan Act 451, Natural Resources and Environmental Protection Act (Part 31 and Part 201).

**3 - Long Term Effectiveness and Permanence** *refers to the amount of risk remaining at a Superfund site and the ability of a cleanup plan to maintain reliable protection of human health and the environment once cleanup goals are met.*

The cleanup plans for monitored natural attenuation and ground-water pump and treat provide long-term effectiveness and permanence by using natural or engineered processes to permanently remove ground-water contaminants from the ground water or permanently disperse or transform ground-water contaminants into non-toxic chemicals. Both of these alternatives restore off-property ground water for use as a drinking water supply.

**4 - Reduction of Toxicity, Mobility or Volume Through Treatment** *evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment and the amount of contamination present.*

The monitored natural attenuation alternative provides for some reduction of toxicity, mobility or volume through natural treatment processes. The presence of DCE and vinyl chloride indi-

cate that some of the off-property ground-water contaminants are degrading. Also, ground-water contaminants that are not fully degraded are captured by McCoy Creek, which reduces the volume of contaminated ground water. The ground-water pump and treat option provides a higher level of a reduction in toxicity, mobility or volume through treatment by collecting and actively treating all contaminated ground water.

**5 - Short-Term Effectiveness** *considers the time to reach cleanup objectives and the risks a cleanup plan may pose to site workers, the community and the environment until cleanup goals are achieved.*

The ground-water pump and treat alternative is more effective than the natural attenuation alternative in the short-term since it would cleanup the contaminated ground-water in about half as much time as the natural attenuation alternative - 15 to 30 years for ground-water pump and treat compared to 32 to 65 years for natural attenuation. However, the short-term risks to the community common to both alternatives would be minimized by institutional controls to prevent people from using the ground water until cleanup levels are achieved; monitoring to track and evaluate the performance of the cleanup plan; and contingency planning. Both alternatives also pose some short-term risks to workers during the cleanup, but these risks are manageable through proper health and safety practices.

**6 - Implementability** *is the technical and administrative feasibility of implementing the cleanup plan such as relative availability of goods and services.*

The cleanup plan for monitored natural attenuation is readily implementable. There is already an existing network of monitoring

wells in the area of off-property contamination and any new monitoring wells should not be difficult to install. Also, institutional controls including the availability of the city water supply, a local ordinance prohibiting contaminated ground water from being used as a drinking water supply, and deed restrictions on many properties are already in place.

The equipment for the ground-water pump and treat system is commonly used and readily available. However, this alternative is slightly more difficult to implement than monitored natural attenuation. The pump and treat alternative would require access or easements for the five wells south of McCoy Creek, the treatment unit and the pipes. The pump and treat system would also have to comply with the substantive permit requirements for installing the system, treating the ground water and discharging it to McCoy Creek or to the publicly owned treatment works.

**7 - Cost** *includes estimated capital and operation and maintenance costs as well as present worth costs. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.*

The present worth cost of the cleanup plan for monitored natural attenuation (\$145,000) is significantly less than the present worth cost for the ground-water pump and treat alternative (\$1.3 million).

**8 - State Acceptance** *considers whether the State (in this case MDEQ) agrees with U.S. EPA's analysis and recommendations in the proposed plan.*

State acceptance of the proposed plan for off-property ground water will be evaluated after the public comment period.

**9 - Community Acceptance** *considers whether the local community agrees with U.S. EPA's analyses and recom-*

*mended alternative. Comments received on the proposed plan are an important indicator of community acceptance.*

Community acceptance of the recommended alternative will be evaluated after the public comment period ends and will be described in the Responsiveness Summary section of the ROD. Previous community involvement following U.S. EPA's 1991 proposed plan indicated a strong opposition to a pump and treat alternative for off-property ground water and a preference for ground-water monitoring.

## **U.S. EPA's Recommended Cleanup Plan**

U.S. EPA's recommended cleanup plan for off-property ground water at the Electro-Voice site is Alterna-

tive 2 - Monitored Natural Attenuation. U.S. EPA is proposing monitored natural attenuation because this cleanup alternative meets all the evaluation criteria and is the best option to restore the contaminated off-property ground water to its potential future use as a drinking water supply.

Although the ground-water cleanup will take longer with monitored natural attenuation, the ground water does not pose any current risks to human health or the environment and a time frame of 32 to 65 years for natural attenuation. One residence is connected to a private well located on the western edge of Buchanan about 1 mile northwest of Electro-Voice. All other Buchanan residents are connected to the city water sup-

ply and the city wells are not in danger of being contaminated by the off-property ground water. A Buchanan local ordinance also prohibits the installation of drinking water wells in areas of ground-water contamination. The levels of TCE and vinyl chloride in the ground water are below MDEQ's allowable levels for the discharge of ground water into surface water, and the levels of chromium, copper and zinc detected in the area of ground-water contamination near McCoy Creek are also below background levels, and MDEQ's human non-drink values for ground water that flows into surface water.

The contaminants in the off-property ground water are degrading and are captured by McCoy Creek, which

## **Glossary**

**Institutional Controls** - Any variety of local ordinances, property deed restrictions, or other legal prohibitions that restrict activities on hazardous waste sites or properties near those sites.

**National Priorities List (NPL)** - A federal roster of uncontrolled hazardous waste sites that actually or potentially threaten human health or the environment and are eligible for investigation and remediation under the federal Superfund program.

**Natural Attenuation** - The process by which a compound is reduced in concentration overtime, through absorption, degradation, dilution, and/or transformation.

**Proposed Plan** - A public participation requirement in which U.S. EPA summarizes for the public the preferred cleanup strategy and the rationale for the preference, reviews the alternatives presented in detailed analysis of the remedial investigation/feasibility study, and presents any waivers of cleanup standards which may be proposed.

**Record of Decision (ROD)** - A legal document signed by U.S. EPA that describes the final cleanup remedy for a Superfund site, why the remedial action was chosen, how much it will cost, and public comments and U.S. EPA's response.

**Remedial Investigation and Feasibility Study** - A two-part study that is completed before any remedial cleanup can begin. The first part is the remedial investigation, which studies the nature and extent of the problem. The second part is the feasibility study, which evaluates different methods of dealing with the problem and selects a method that will effectively protect public health and the environment.

**Responsiveness Summary** - A summary of oral and/or written public comments received by U.S. EPA during a comment period on key documents, and U.S. EPA's response to those comments.

**Risk Assessment** - The part of the remedial investigation report that discusses the potential for human and ecological exposure to site contaminants.

**Surface Water** - All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, etc.)

**Volatile Organic Compounds (VOC)** - Compounds of primarily carbon, oxygen, and hydrogen, characterized by their tendency to evaporate easily and quickly. VOCs are found in lighter fluid, paint thinners, and components of gasoline.

prevents the further spread of contamination. The ground water will also be monitored to ensure that the metals present in the off-property ground-water contamination, above background levels, will not affect McCoy Creek as the ground water flows away from the site and into the creek.

Based on current conditions and reasonably anticipated future ground-water use, the monitored natural attenuation alternative is expected to be fully protective of human health and the environment

and to comply with all ARARs. Monitored natural attenuation will achieve long-term effectiveness and permanence, with treatment provided through degradation and capture by McCoy Creek. Short-term effectiveness would be achieved through monitoring and institutional controls. The cleanup plan is implementable and cost-effective.

### **Next Steps**

U.S. EPA will consider public comments received during the public

comment period (July 9 to August 8) before selecting a final cleanup plan for the off-property ground water. The cleanup plan will be described in a final decision document called the record of decision (ROD). U.S. EPA will make the ROD available for public review in the information repository at the Buchanan Public Library and at U.S. EPA's Region 5 office. U.S. EPA will answer public comments in a document called a responsiveness summary, which is part of the ROD.

### **For Additional Information**

Anyone interested in learning more about the proposed plan for the Electro-Voice Superfund site is encouraged to review the information repositories for the site located at the Buchanan Public Library, 117 W. Front Street. An Administrative Record, which contains detailed information upon which the selection of the recommended alternative will be based, is also located at the Buchanan Public Library and at the U.S. EPA Region 5 office in Chicago. For further information about this proposed plan, the Electro-Voice site, please contact:

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Office of Public Affairs (P-19J)  
77 West Jackson Boulevard  
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